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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,254	07/14/2000	Hiroshi Shinraki	194264US-2-DIV	9218
22850	7590	09/08/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PADGETT, MARIANNE L	
			ART UNIT	PAPER NUMBER

1762

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/617,254

Applicant(s)

SHINRIKI ET AL.

Examiner

Marianne L. Padgett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 57,58,62-67,69-75,77-83 and 85-101 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 57,58,62-67,69-75,77-83 and 85-101 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/7/05</u> | 6) <input type="checkbox"/> Other: _____ |

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1. The replacement page (9 of 19) submitted 6/17/05 for figures 14-15 corrects the problem noted in figure 14. The amendment of claims 57-58, 62-67, 69-75, 77-83 and 85-94 removes the rejection of sections 6-7 of the action mailed 2/17/05.

The amendments to independent claim 95 have overcome the art rejection of section 10 of the action mailed 2/17/05, as the cover inside the reaction vessel configured as now claimed is not suggested by the applied references of Jinriki et al (JP 02-283,022), in view of Harris (5,698,472).

2. Claims 86-89 & 92-93 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants previously cited figures 14-15 and pages 50-52 as provides support for these new claims as stated in section 3 of the action mailed 2/17/05, however a subtle change in language produced an unsupported (and probably unintended) new limitation, which the current amendment has not removed. In claims 86, 88 and 92, it is claimed that "the gas injection pipes...of the showerhead have a projection area projected on the...object... is smaller than 20%..." (emphasis added to show its still the amount of target area being exposed that's claimed), however on p. 51, lines 1-8, it is "the projection area of the gas injection pipes 312 with respect to the wafer W...set to be smaller than 20% of the surface area of the wafer" (emphasis added) which is disclosed, thus these claims as written still contain New Matter.

Would language such as changing "have" to --where-- in line 4 of claim 86, then inserting --from the pipes which is-- after "area" on line 4, deleting "which" on line 5 and replacing "of a surface...object has" with --of opposed target surface area-- provide applicants' intended meaning? It appears to be consistent with the specification & figures.

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3. Claims 95-101 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 95-101 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amendments to claims 95 & 101 have significantly clarified the meaning of claim 101, however the new phrasing "in the cover" in line 9 of claim 95 is non-idiomatic or confusing, as it implies that it is inside the cover itself, instead of in the area it encloses that the "generating..." takes place. The cited Fig. 17-19 and their description do not support this possibility. Would inserting --the flow enclosed by-- or the like after "...gas in" in line 9 of claim 95, provide intended meaning? Also in line 5 of claim 101, changing "in the cover and" to --by the cover, so as to flow-- would be clearer & more idiomatic.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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UV radiation is applied perpendicular to substrate and flow to effect a photochemical reaction.

5. Claims 57-58, 63-67, 71-75, 77-83, 85, 90-91 and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinriki et al, in view of Bersin (4,687,544) or Green et al (5,863,843), optionally considering Ishii (5,683,537), as discussed in sections 12 of the action mailed 2/17/05.

While the amendments clarify the gas injection system, uniform distribution of gases would have been expected to be advantageous as previously discussed, where use of a conventional grid formate for effecting uniformity is not considered to be unexpected or novel , especially as it has no synergic effects with generic gas excitation processing, so use of any arrangement or design to provide uniform distribution would have been expected to be equally effective.

6. Claims 62 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinriki et al, in view of Bersin or Green et al as applied to claims 57-58, 63-67, 69, 71-75, 77-83, 85, 90-91 and 94 above, and further in view of JP1-298,003 A or Harada et al (5,792,326), as applied in section 6 of the 4/2/04 action.

7. Claims 86-89, 92-93 and 95-101 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st or 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

If the examiner is correct in interpreting how applicants probably intended to claim the limitations of these claims, it appears that if their 112 problems are adequately clarified, etc., that they will define particular gas distribution processes that as combined with the UV radiation systems provide different means and solutions to the uniformity, or without interference distribute both gas and radiation without one means interfering with the other.

8. Other art of interest include JP07-2731101 A with another showerhead + lamp configuration; & Nishiguchi et al (2005/0191864 A1; abstract & fig. 7-10), which is not prior art. Applicants' or applicants' assignee's copending cases some with overlapping inventors Okase et al

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(6,399,922 B2), Sakuma et al (6,537,422 B2), Hasei et al (6,224,934 B1); & Shinriki et al (2005/0074983 A1) are of interest, but sufficiently distinguished from the present claims.

9. Applicant's arguments filed 6/17/05 and discussed above have been fully considered but they are not persuasive.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

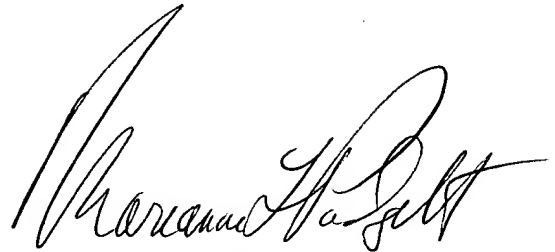
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MLP 9/5/05

A handwritten signature in black ink, appearing to read "Marianne Padgett", written in a cursive style.

**MARIANNE PADGETT
PRIMARY EXAMINER**